

limit and from one to two degrees west of the average eastern limit. Reports would also indicate that more than the usual amount of damage to shipping was caused by encounters with icebergs and heavy field ice, and that vessels were more frequently blocked or detained by ice massed off the Newfoundland coasts or in the Gulf of Saint Lawrence.

The following table shows the southern and eastern limits of the region within which icebergs or field ice were reported for May during the last six years:

| Southern limit. | | | Eastern limit. | | |
|-----------------|---------|----------|-----------------|---------|----------|
| Month. | Lat. N. | Long. W. | Month. | Lat. N. | Long. W. |
| May, 1883 | 40° 30' | 47° 00' | May, 1883 | 45° 40' | 45° 12' |
| May, 1884 | 41° 30' | 47° 30' | May, 1884 | 43° 30' | 44° 50' |
| May, 1885 | 40° 50' | 48° 15' | May, 1885 | 42° 30' | 40° 10' |
| May, 1886 | 41° 36' | 51° 30' | May, 1886 | 48° 55' | 46° 13' |
| May, 1887 | 39° 38' | 46° 00' | May, 1887 | 39° 38' | 46° 00' |
| May, 1888 | 41° 00' | 46° 00' | May, 1888 | 41° 00' | 46° 00' |

FOG.

The limits of fog-belts to the westward of the fortieth meridian are shown on chart i by dotted shading. As compared with the chart for April, 1888, a slight extension of the southern limit of the Newfoundland fog-belt is shown, and the number of days during which fog prevailed in that region, seventeen, was five less than the aggregate number of foggy days reported for the preceding month. To the westward of the sixtieth meridian fog was reported for a total of twenty-seven days during May, while in April the foggy days numbered but fourteen. For the dates during which fog was reported over or near the Banks of Newfoundland, its development invariably attended the approach and passage of areas of low barometric pressure, while to the southward of Nova Scotia and along the American coast its presence, as a rule, accompanied the disturbed atmospheric conditions attendant upon the advance from the westward or southwestward of cyclonic areas.

The unusual prevalence of fog to the westward of the sixtieth meridian constitutes a noteworthy feature of May, 1888, and would seem to indicate abnormally large differences between

the temperature of the ocean and that of the air currents brought into contact therewith.

The following are the limits of fog-areas on the north Atlantic Ocean during May, 1888, as reported by shipmasters:

| Date. | Vessel. | Entered. | | | Cleared. | | |
|-------|-----------------------------|----------|---------|--------------|-----------------|---------|-------------|
| | | Lat. N. | Lon. W. | Time. | Lat. N. | Lon. W. | Time. |
| 1 | S. S. Waesland | ° / | ° / | 3:40 p. m.. | 40 23 | 68 03 | 6:45 p. m. |
| 1 | Edith Goddess | 39 30 | 74 02 | 11:25 a. m.. | 39 54 | 49 55 | 4:40 p. m. |
| 1 | Nessmore | 39 53 | 51 20 | 2:30 p. m.. | 40 24 | 51 20 | 8:35 a. m. |
| 1 | Lahn | 42 14 | 50 48 | 7 p. m.. | 42 07 | 52 12 | 10:50 p. m. |
| 1-2 | City of Berlin | 41 35 | 45 16 | 8:50 p. m.. | 40 24 | 51 24 | 5 p. m. |
| 2 | Gallia | 40 54 | 61 49 | 10 a. m.. | 40 51 | 63 08 | 2 p. m. |
| 2-3 | Slavonia | 45 30 | 46 35 | 9 p. m.. | 43 34 | 51 24 | 5 p. m. |
| 3 | Buffalo | 42 23 | 46 25 | 2 p. m.. | 42 15 | 46 38 | 4 p. m. |
| 3-4 | Bauinwall | 49 16 | 43 40 | 3 p. m.. | 48 00 | 49 50 | 6:30 p. m. |
| 4 | State of Nebraska | 47 18 | 42 50 | ..... | 46 18 | 45 07 | ..... |
| 4 | Emus | 43 35 | 48 24 | 6:30 a. m.. | 43 26 | 49 24 | 7:30 a. m. |
| 4-5 | Lake Ontario | 50 08 | 43 34 | 9 a. m.. | 40 48 | 54 40 | 8:29 a. m. |
| 5-6 | Exeter City | 41 03 | 66 30 | ..... | 40 11 | 71 50 | ..... |
| 6 | Pavonia | 42 30 | 64 29 | 5 a. m.. | 42 26 | 68 31 | Midnight. |
| 6-7 | Aurania | 49 | 59 | ..... | 41 00 | 59 18 | 4 p. m. |
| 7 | Siberian | 42 29 | 56 44 | 4 a. m.. | 42 30 | 54 45 | Noon. |
| 7 | Devonia | 41 35 | 60 18 | 1 a. m.. | 41 13 | 63 26 | 2:13 p. m. |
| 7-8 | Rhein | 37 34 | 73 26 | 8 p. m.. | 43 25 | 48 40 | 7 a. m. |
| 7-8 | Brooklyn City | 42 50 | 51 00 | 7 p. m.. | 44 20 | 49 20 | 9:15 a. m. |
| 8 | Stockholm City | 44 15 | 45 20 | 5 a. m.. | 42 32 | 68 25 | 8:30 p. m. |
| 9-10 | Mareca | 43 25 | 63 47 | 8 p. m.. | 40 34 | 71 41 | 6 a. m. |
| 9-11 | Celtic | 44 25 | 57 56 | 11 p. m.. | 41 15 | 63 16 | 6 p. m. |
| 11 | Servia | 41 23 | 61 48 | 2:05 p. m.. | 40 30 | 72 42 | 3:50 p. m. |
| 11-12 | Aller | 41 15 | 65 03 | 9:40 a. m.. | 40 40 | 73 00 | 1 p. m. |
| 12-13 | Island | 40 50 | 64 55 | 4 a. m.. | 38 10 | 72 50 | 11 a. m. |
| 13 | Mentmore | 39 22 | 69 30 | 3 p. m.. | 36 44 | 74 53 | 9:30 a. m. |
| 13-14 | Cyprus | 36 20 | 74 50 | 7 a. m.. | 40 30 | 63 39 | 10:15 a. m. |
| 14-15 | Etruria | 40 30 | 71 56 | 6:48 p. m.. | 41 54 | 52 55 | 1:27 p. m. |
| 15 | Seythia | 43 32 | 48 05 | 8:52 p. m.. | 43 30 | 51 10 | 11:30 a. m. |
| 15 | Germanic | 44 00 | 48 00 | 3 a. m.. | 40 41 | 68 05 | 4:30 p. m. |
| 16 | England | 40 50 | 67 30 | 11:50 a. m.. | 41 46 | 59 26 | 5:30 p. m. |
| 16 | Rugia | 41 48 | 59 10 | 4:30 p. m.. | 42 00 | 50 00 | Noon. |
| 17 | Cephalonia | 42 00 | 49 00 | 9:10 a. m.. | 43 17 | 65 34 | 4:30 p. m. |
| 17 | Norrora | 43 16 | 65 23 | 3:45 p. m.. | 48 04 | 61 05 | 3:15 a. m. |
| 18-19 | Colima | 48 24 | 62 14 | 10:55 p. m.. | 45 23 | 52 22 | 0:29 p. m. |
| 18-19 | State of Pennsylvania | 47 40 | 47 03 | 3:10 p. m.. | 40 30 | 71 15 | 1 p. m. |
| 19 | Schiedam | 40 39 | 69 03 | 4 a. m.. | 40 53 | 67 42 | 4:30 p. m. |
| 20 | Egypt | 41 05 | 66 12 | 10:30 a. m.. | 44 39 | 51 33 | ..... |
| 20 | Victory | 44 00 | 48 00 | ..... | 37 00 | 75 55 | 2 p. m. |
| 23-24 | Wyanoke | 39 20 | 74 10 | 11:30 p. m.. | 42 44 | 50 22 | 11 a. m. |
| 24 | Bothnia | 42 45 | 49 59 | 10 a. m.. | 40 30 | 73 20 | 10 a. m. |
| 25 | Trave | 40 41 | 70 10 | 2 a. m.. | 43 43 | 49 25 | 11:30 p. m. |
| 26 | Virginian | 43 53 | 48 48 | 9 p. m.. | 39 15 | 74 20 | Midnight. |
| 27 | Berrita | 37 30 | 74 20 | 7 a. m.. | 39 15 | 74 20 | ..... |
| 27 | Ludgate Hill | 40 00 | 70 00 | ..... | Sandy Hook | ..... | ..... |
| 27 | Virginian | 42 41 | 53 31 | 2:45 p. m.. | 42 39 | 53 45 | 3:45 p. m. |
| 28 | Faerelandet | 35 54 | 74 39 | 4 p. m.. | 37 20 | 74 46 | 11 p. m. |
| 29 | Ailsa | 39 00 | 73 56 | 7 a. m.. | 39 25 | 74 00 | 10 a. m. |
| 30 | Lahn | 41 05 | 63 10 | 11 a. m.. | 41 03 | 63 30 | 12:45 p. m. |
| 31 | La Gascogne | 42 05 | 49 35 | 8:42 p. m.. | ..... | ..... | ..... |
| 31 | Gallia | 40 40 | 65 28 | 11 p. m.. | Scotland L. Sp. | 2 p. m. | ..... |

TEMPERATURE OF THE AIR (expressed in degrees, Fahrenheit).

The distribution of mean temperature over the United States and Canada for May, 1888, is exhibited on chart ii by dotted isothermal lines. In the table of miscellaneous data are given the monthly mean temperatures, with the departures from the normal, for the various stations of the Signal Service. The figures opposite the names of the geographical districts in the columns for mean temperature, precipitation, and departures from the normal, show respectively the averages for the several districts. The normal for any district may be found by adding the departure to the current mean when the departure is below the normal, and subtracting when above.

On the north Pacific coast and in the middle and northern plateau districts the month was warmer than the average, the excess over the normal temperature being slight, except in Washington Territory and Oregon, where it ranged from 2° to 5°. In southern California, and in all districts east of the Rocky Mountains, the month was colder than the average. The deficiencies of temperature was very slight in the Southern States, but in the northern districts they were quite marked, amounting to from 6° to 9° from Dakota eastward to the Lake region. On the Atlantic coast the deficiencies ranged from less than 1° in the south Atlantic states to about 4° at stations on the southern New England coast.

The following are some of the most marked departures from normal temperatures at Signal Service stations :

| Above normal. | Below normal. |
|--------------------------|---------------|
| Walla Walla, Wash..... | 5.8 |
| Portland, Oregon..... | 5.3 |
| Astoria, Oregon..... | 4.4 |
| Roseburg, Oregon..... | 4.1 |
| Spokane Falls, Wash..... | 3.8 |
| Olympia, Wash..... | 3.4 |
| Fort Canby, Wash..... | 2.1 |

At Signal Service stations the absolute maximum temperature for the month, 107°, occurred at Fort McDowell, Ariz., on the 12th; absolute minimum, 6°.7, occurred on the summit of Pike's Peak, Col., on the 3d, the next lowest being 14°.4 at Saint Vincent, Minn., on the 17th. The highest monthly mean temperature, 78°.6, is reported from Rio Grande City, Tex., and the lowest, 21°.3, from Pike's Peak, Col., the next lowest being 42°.2 from Duluth, Minn.

The table of comparative maximum and minimum temperatures shows that the maximum temperatures of May, 1888, have been exceeded in past years at all stations. The minimum temperatures, however, were the lowest that have yet occurred in May at some stations, viz., Block Island, R. I., Charlotte, N. C., Knoxville, Tenn., Marquette, Mich., and Saint Vincent,

Minn., the length of record at these stations ranging from eight to eighteen years.

RANGES OF TEMPERATURE.

The monthly and the greatest and least daily ranges of temperature at Signal Service stations are given in the table of miscellaneous meteorological data. The monthly ranges were greatest, amounting to 60° , or more, over the northern and central plateau districts and the extreme northwest; they were least along the immediate coasts of the Gulf and Pacific, being generally less than 30° .

The following are some of the extreme monthly ranges

| Greatest. | | Least. | |
|---------------------------|------|----------------------------------|-----|
| Winnemucca, Nev | 67.0 | San Diego, Cal | 18. |
| Kort Klamath, Oregon..... | 64.0 | Key West, Fla..... | 19. |
| Saint Vincent, Minn | 62.4 | Cedar Keys, Fla..... | 23. |
| Lakeview, Oregon | 61.0 | Brownsville, Tex | 24. |
| Linkville, Oregon..... | 60.6 | Galveston, Tex | 24. |
| Fort Bidwell, Cal | 59.9 | Jupiter and Titusville, Fla..... | 26. |

Table of comparative maximum and minimum temperatures for May

| State or Terri- tory. | Stations. | For 1888. | | Since establishment of station. | | | | Length of recording |
|--------------------------|-----------------|-----------|------|---------------------------------|---------------|------|------------|------------------------|
| | | Max. | Min. | Max. | Year. | Min. | Year. | |
| Alabama | Mobile | 85.2 | 54.0 | 98.0 | 1878 | 47.3 | 1883 | 1 |
| Do. | Montgomery | 92.4 | 48.3 | 98.0 | 1875 | 44.0 | 1883 | 1 |
| Arizona | Prescott | 85.0 | 33.5 | 92.1 | 1886 | 26.0 | 1877 | 1 |
| Do. | Fort Apache | 92.4 | 32.0 | 96.3 | 1886 | 29.0 | 1883 | 1 |
| Arkansas | Fort Smith | 88.0 | 44.0 | 97.9 | 1886 | 41.5 | 1885 | 1 |
| Do. | Little Rock | 88.5 | 45.0 | 93.2 | 1887 | 43.8 | 1885 | 1 |
| California | San Francisco | 81.1 | 47.4 | 96.9 | 1879 | 45.0 | 1876, 1882 | 1 |
| Do. | San Diego | 70.0 | 52.0 | 94.0 | 1874 | 45.4 | 1883 | 1 |
| Colorado | Denver | 85.0 | 31.5 | 92.0 | 1886 | 27.0 | 1872, 1873 | 1 |
| Do. | Montrose | 81.2 | 32.2 | 89.5 | 1886 | 28.3 | 1887 | 1 |
| Connecticut | New Haven | 79.9 | 32.4 | 89.0 | 1880 | 30.5 | 1882 | 1 |
| Do. | New London | 76.8 | 35.8 | 89.0 | 1881 | 32.0 | 1876, 1883 | 1 |
| Dakota | Fort Buford | 74.7 | 22.2 | 95.0 | 1886 | 20.0 | 1885 | 1 |
| Dis. of Columbia | Yankton | 79.1 | 32.0 | 94.6 | 1880 | 24.0 | 1875 | 1 |
| Florida | Washington City | 89.0 | 38.6 | 96.0 | 1878 | 33.5 | 1876 | 1 |
| Do. | Jacksonville | 93.0 | 55.5 | 98.5 | 1881 | 48.0 | 1877 | 1 |
| Georgia | Key West | 85.4 | 66.0 | 93.2 | 1881 | 63.0 | 1877 | 1 |
| Do. | Atlanta | 88.0 | 44.3 | 91.0 | 1879 | 39.5 | 1883 | 1 |
| Idaho | Savannah | 90.6 | 52.5 | 98.0 | 1878 | 48.0 | 1887 | 1 |
| Illinois | Boise City | 90.0 | 31.6 | 97.3 | 1887 | 26.1 | 1887 | 1 |
| Indiana | Cairo | 84.5 | 42.1 | 92.0 | 1874 | 37.0 | 1875 | 1 |
| Indian Ter. | Chicago | 81.0 | 32.2 | 89.0 | 1874 | 27.0 | 1875 | 1 |
| Iowa | Indianapolis | 86.2 | 36.0 | 89.0 | '74, '81, '87 | 31.0 | 1877 | 1 |
| Do. | Fort Sill | 90.0 | 44.8 | 103.5 | 1886 | 41.5 | 1887 | 1 |
| Kansas | Dubuque | 78.5 | 30.5 | 94.6 | 1874 | 25.9 | 1885 | 1 |
| Do. | Des Moines | 81.0 | 34.0 | 93.6 | 1886 | 27.8 | 1885 | 1 |
| Louisiana | Dodge City | 84.3 | 39.0 | 98.0 | 1879, 1880 | 32.0 | 1884 | 1 |
| Kentucky | Leavenworth | 82.8 | 36.5 | 94.0 | 1874 | 31.0 | 1875 | 1 |
| Do. | Louisville | 90.8 | 37.5 | 93.0 | 1881 | 36.0 | 1875, 1876 | 1 |
| Maine | New Orleans | 88.5 | 60.0 | 92.0 | 1877 | 56.0 | 1871, 1877 | 1 |
| Do. | Shreveport | 89.5 | 51.8 | 101.2 | 1886 | 47.0 | 1876 | 1 |
| Maryland | Eastport | 65.8 | 30.0 | 80.0 | 1877 | 29.0 | 1882 | 1 |
| Massachusetts | Portland | 66.6 | 32.3 | 94.0 | 1880 | 34.0 | 1873, 1876 | 1 |
| Michigan | Baltimore | 86.5 | 40.8 | 95.0 | 1881 | 34.0 | 1876 | 1 |
| Do. | Boston | 77.0 | 35.0 | 97.0 | 1880 | 31.0 | 1882 | 1 |
| Minnesota | Marquette | 75.7 | 21.8 | 92.0 | 1879 | 22.0 | 1875 | 1 |
| Mississippi | Grand Haven | 77.6 | 30.0 | 86.0 | 1877 | 28.0 | 1875 | 1 |
| Missouri | Saint Vincent | 76.8 | 14.4 | 96.0 | 1887 | 21.0 | 1882 | 1 |
| Montana | Saint Paul | 77.5 | 28.6 | 94.0 | 1874 | 24.0 | 1875 | 1 |
| Do. | Vicksburg | 89.0 | 50.0 | 95.0 | 1874 | 46.0 | 1877 | 1 |
| Nebraska | Saint Louis | 87.5 | 40.0 | 93.0 | 1874 | 32.0 | 1875 | 1 |
| Do. | Ft. Assinaboine | 76.7 | 30.8 | 94.7 | 1886 | 18.2 | 1885 | 1 |
| Nevada | Helena | 78.0 | 31.5 | 88.8 | 1886 | 21.9 | 1885 | 1 |
| New Jersey | North Platte | 85.3 | 31.8 | 94.0 | 1880 | 28.0 | 1885 | 1 |
| New Mexico | Omaha | 84.0 | 36.7 | 93.0 | 1887 | 28.0 | 1875 | 1 |
| New York | Winona | 90.0 | 23.0 | 95.9 | 1887 | 16.8 | 1887 | 1 |
| Do. | Atlantic City | 74.2 | 40.2 | 89.0 | 1880, 1881 | 33.0 | 1876, 1880 | 1 |
| North Carolina | Santa Fe | 76.5 | 33.5 | 89.0 | 1872 | 24.0 | 1880, 1887 | 1 |
| Ohio | Buffalo | 80.7 | 33.4 | 87.0 | 1876 | 29.0 | 1876 | 1 |
| Oregon | New York City | 82.1 | 40.7 | 94.0 | 1884 | 34.0 | 1876, 1880 | 1 |
| Do. | Charlotte | 94.0 | 40.0 | 94.4 | 1881 | 40.5 | 1883 | 1 |
| Pennsylvania | Wilmington | 85.5 | 50.7 | 95.0 | 1878 | 38.0 | 1876 | 1 |
| Do. | Cincinnati | 87.6 | 38.8 | 94.0 | 1874, 1875 | 35.0 | 1883 | 1 |
| Rhode Island | Sandusky | 84.0 | 30.9 | 92.0 | 1887 | 34.0 | 1880 | 1 |
| South Carolina | Portland | 91.3 | 37.5 | 99.0 | 1887 | 33.0 | 1878 | 1 |
| Tennessee | Roseburg | 93.0 | 35.7 | 102.0 | 1887 | 30.5 | 1886 | 1 |
| Do. | Pittsburg | 85.2 | 37.2 | 95.1 | 1887 | 27.0 | 1876 | 1 |
| Texas | Philadelphia | 86.6 | 42.5 | 96.0 | 1880 | 36.0 | 1880 | 1 |
| Do. | Block Island | 71.0 | 34.9 | 78.3 | 1881 | 36.0 | 1882 | 1 |
| Utah | Charleston | 87.0 | 51.8 | 94.0 | 1886 | 47.0 | 1876 | 1 |
| Do. | Knoxville | 86.6 | 36.1 | 94.0 | 1877 | 37.0 | 1880 | 1 |
| Wyoming | Memphis | 88.4 | 46.0 | 96.0 | 1879 | 41.0 | 1883 | 1 |
| Do. | Brownsville | 88.3 | 63.9 | 99.0 | 1877 | 49.0 | 1877 | 1 |
| Virginia | Fort Elliott | 93.6 | 40.0 | 96.0 | 1886 | 35.0 | 1885 | 1 |
| Do. | Salt Lake City | 84.0 | 38.1 | 93.3 | 1887 | 30.7 | 1887 | 1 |
| Washington | Lynchburg | 89.5 | 41.2 | 94.1 | 1887 | 37.0 | 1876 | 1 |
| Do. | Norfolk | 90.0 | 44.1 | 98.0 | 1880 | 38.0 | 1876 | 1 |
| Wisconsin | Spokane Falls | 91.5 | 34.9 | 94.9 | 1887 | 29.0 | 1881 | 1 |
| Do. | Olympia | 88.0 | 34.0 | 88.8 | 1887 | 30.0 | 1882, 1886 | 1 |
| Wyoming | La Crosse | 79.0 | 32.0 | 96.0 | 1874 | 29.0 | 1875 | 1 |
| Do. | Milwaukee | 71.0 | 28.9 | 90.0 | 1874 | 25.0 | 1875 | 1 |
| Wyoming | Cheyenne | 78.0 | 27.0 | 88.0 | 1874 | 21.5 | 1886 | 1 |

DEVIATIONS FROM NORMAL TEMPERATURES

The following table shows for certain stations, as reported by voluntary observers, (1) the normal temperatures for a series of years; (2) the length of record during which the observations have been taken, and from which the normal has been computed; (3) the mean temperature for May, 1888; (4) the departures of the current month from the normal; (5) and the extreme monthly means for May during the period of observations and the year of occurrence:

| State and Station. | County. | (1) Normal for the month of May. | (2) Length of record. | (3) Mean for May, 1886. | (4) Departure from normal. | (5) Extreme monthly mean temperature for May. | | | |
|------------------------|--------------------|----------------------------------|-----------------------|-------------------------|----------------------------|---|---------|---------|-------|
| | | | | | | Highest. | | Lowest. | |
| | | | | | | Am't. | Year. | Am't. | Year. |
| <i>Arkansas.</i> | | | | | | | | | |
| Lead Hill..... | Boone..... | ◦ | Years | ◦ | ◦ | ◦ | ◦ | ◦ | ◦ |
| <i>California.</i> | | | 6 | 66.9 | -1.4 | ..... | ..... | ..... | ..... |
| Sacramento..... | Sacramento | 64.3 | 22 | 61.8 | -2.5 | 70.5 | 1875 | 59.7 | 187 |
| <i>Florida.</i> | | | | | | | | | |
| Merritt's Island | Brevard | 76.4 | 5 | 75.2 | -1.2 | 79.2 | 1884 | 75.2 | 188 |
| <i>Illinois.</i> | | | | | | | | | |
| Golconda..... | Pope..... | 68.7 | 10 | 65.7 | -3.0 | ..... | ..... | ..... | ..... |
| Peoria..... | Pecoria..... | 64.0 | 32 | 61.5 | -2.5 | ..... | ..... | ..... | ..... |
| Prairieville..... | Lee..... | 58.1 | 16 | 56.1 | -2.0 | ..... | ..... | ..... | ..... |
| Riley..... | McHenry..... | 57.6 | 27 | 51.7 | -5.9 | ..... | ..... | ..... | ..... |
| <i>Indiana.</i> | | | | | | | | | |
| Blue Lick..... | Clark..... | 64.7 | 11 | 61.7 | -3.0 | ..... | ..... | ..... | ..... |
| Logansport..... | Cass..... | 63.9 | 34 | 60.9 | -3.0 | ..... | ..... | ..... | ..... |
| Vevay..... | Switzerland | 65.4 | 21 | 62.2 | -3.2 | 71.1 | 1880 | 61.2 | 186 |
| <i>Iowa.</i> | | | | | | | | | |
| Cresco..... | Howard..... | 57.1 | 16 | 49.9 | -7.2 | ..... | ..... | ..... | ..... |
| Independence..... | Buchanan..... | 60.0 | 12 | 52.0 | -8.0 | ..... | ..... | ..... | ..... |
| Monticello..... | Jones..... | 59.8 | 34 | 53.8 | -6.0 | 67.8 | 1870 | 52.1 | 186 |
| <i>Kansas.</i> | | | | | | | | | |
| Independence.... | Montgomery | 66.5 | 17 | 64.6 | -1.9 | ..... | ..... | ..... | ..... |
| Lawrence..... | Douglas..... | 65.3 | 21 | 62.1 | -3.2 | 70.6 | 1880 | 60.3 | 188 |
| Wellington..... | Sumner..... | 64.9 | 10 | 63.6 | -1.3 | 71.1 | 1880 | 58.2 | 188 |
| <i>Louisiana.</i> | | | | | | | | | |
| Grand Coteau..... | Saint Landry | 74.0 | 6 | 74.7 | +0.7 | ..... | ..... | ..... | ..... |
| <i>Maine.</i> | | | | | | | | | |
| Gardiner..... | Kennebec | 53.4 | 52 | 49.9 | -3.5 | 57.6 | 1854 | 49.2 | 188 |
| <i>Maryland.</i> | | | | | | | | | |
| Cumberland..... | Alleghany | 61.8 | 16 | 60.2 | -1.6 | 67.0 | 1880 | 57.5 | 188 |
| <i>Massachusetts.</i> | | | | | | | | | |
| Somerset..... | Bristol | 58.2 | 18 | 57.2 | -1.0 | ..... | ..... | ..... | ..... |
| <i>Michigan.</i> | | | | | | | | | |
| Thornville..... | Lapeer..... | 59.3 | 12 | 54.6 | -4.7 | ..... | ..... | ..... | ..... |
| Kalamazoo..... | Kalamazoo | 58.8 | 13 | 54.3 | -4.5 | ..... | ..... | ..... | ..... |
| Adrian..... | Lenawee..... | 57.9 | 11 | 55.4 | -2.5 | ..... | ..... | ..... | ..... |
| <i>Nevada.</i> | | | | | | | | | |
| Carson City..... | Ormsby | 57.3 | 9 | 56.7 | -0.6 | 59.6 | 81. '86 | 54.2 | 188 |
| <i>New Jersey.</i> | | | | | | | | | |
| South Orange..... | Essex | 60.2 | 18 | 57.4 | -2.8 | 66.4 | 1880 | 53.0 | 188 |
| <i>New York.</i> | | | | | | | | | |
| Palermo..... | Oswego | 51.6 | 35 | 52.2 | +0.6 | 60.7 | 1880 | 47.5 | 186 |
| <i>Ohio.</i> | | | | | | | | | |
| Wauscon..... | Fulton | 59.0 | 18 | 55.2 | -3.8 | 64.3 | 1880 | 52.2 | 188 |
| <i>Oregon.</i> | | | | | | | | | |
| Albany..... | Linn..... | 56.8 | 10 | 60.2 | +3.4 | 60.2 | 1888 | 51.4 | 188 |
| Eols..... | Polk..... | 54.2 | 18 | 59.1 | +4.9 | ..... | ..... | ..... | ..... |
| <i>Pennsylvania.</i> | | | | | | | | | |
| Dyberry..... | Wayne | 54.9 | 22 | 53.5 | -1.4 | 64.1 | 1880 | 48.4 | 188 |
| Grampian Hills..... | Clearfield | 56.4 | 25 | 55.6 | -0.8 | ..... | ..... | ..... | ..... |
| Wellsborough | Tioga | 56.9 | 10 | 54.9 | -2.0 | 63.2 | 1887 | 50.5 | 188 |
| <i>South Carolina.</i> | | | | | | | | | |
| Stateburg..... | Sumter | 70.1 | 8 | 69.7 | -0.4 | 73.8 | 1881 | 65.9 | 188 |
| Milan..... | Gibson | 67.0 | 6 | 67.0 | 0.0 | 83.0 | 1887 | 55.0 | 188 |
| <i>Texas.</i> | | | | | | | | | |
| New Ulm..... | Austin | 74.4 | 16 | 72.6 | -1.8 | 77.4 | 1879 | 72.0 | 188 |
| Vermont..... | | | | | | | | | |
| Stratford..... | Orange | 56.5 | 14 | 53.7 | -2.8 | 63.0 | 1887 | 50.5 | 188 |
| <i>Virginia.</i> | | | | | | | | | |
| Bird's Nest..... | Northampton | 65.0 | 19 | 63.6 | -1.4 | 73.7 | 1880 | 61.6 | 187 |
| Variety Mills..... | Nelson | 63.8 | 11 | 63.0 | -0.8 | 68.0 | 1880 | 60.2 | 187 |
| Wytheville..... | Wythe | 61.1 | 25 | 60.5 | -0.6 | 65.7 | 1880 | 57.0 | 186 |
| <i>West Virginia.</i> | | | | | | | | | |
| Helvetia..... | Randolph | 58.6 | 12 | 57.8 | -0.8 | 63.2 | 1887 | ..... | ..... |

FROST

Frosts occurred most extensively on the 16th and 17th after the 23d they were recorded in but few states. In Dakota, Iowa, and Minnesota frosts were reported on from 19 to 25 days, and in Illinois, Indiana, Michigan, Montana, Nebraska, Nevada, New York, Ohio, Pennsylvania, Vermont, Wisconsin and Wyoming from 9 to 15 days. In California, Arizona, New Mexico, and in the Central and Southern States they were reported as follows:

Alabama.—New Market, 2d, 15th

Arizona.—Fort Apache, 21st, 26th, 27th; Whipple Barracks 6th, 22d to 25th, 27th, 28th.

Arkansas.—Lead Hill, 1st

California.—Eureka, 11th; Fort Bidwell, 2d